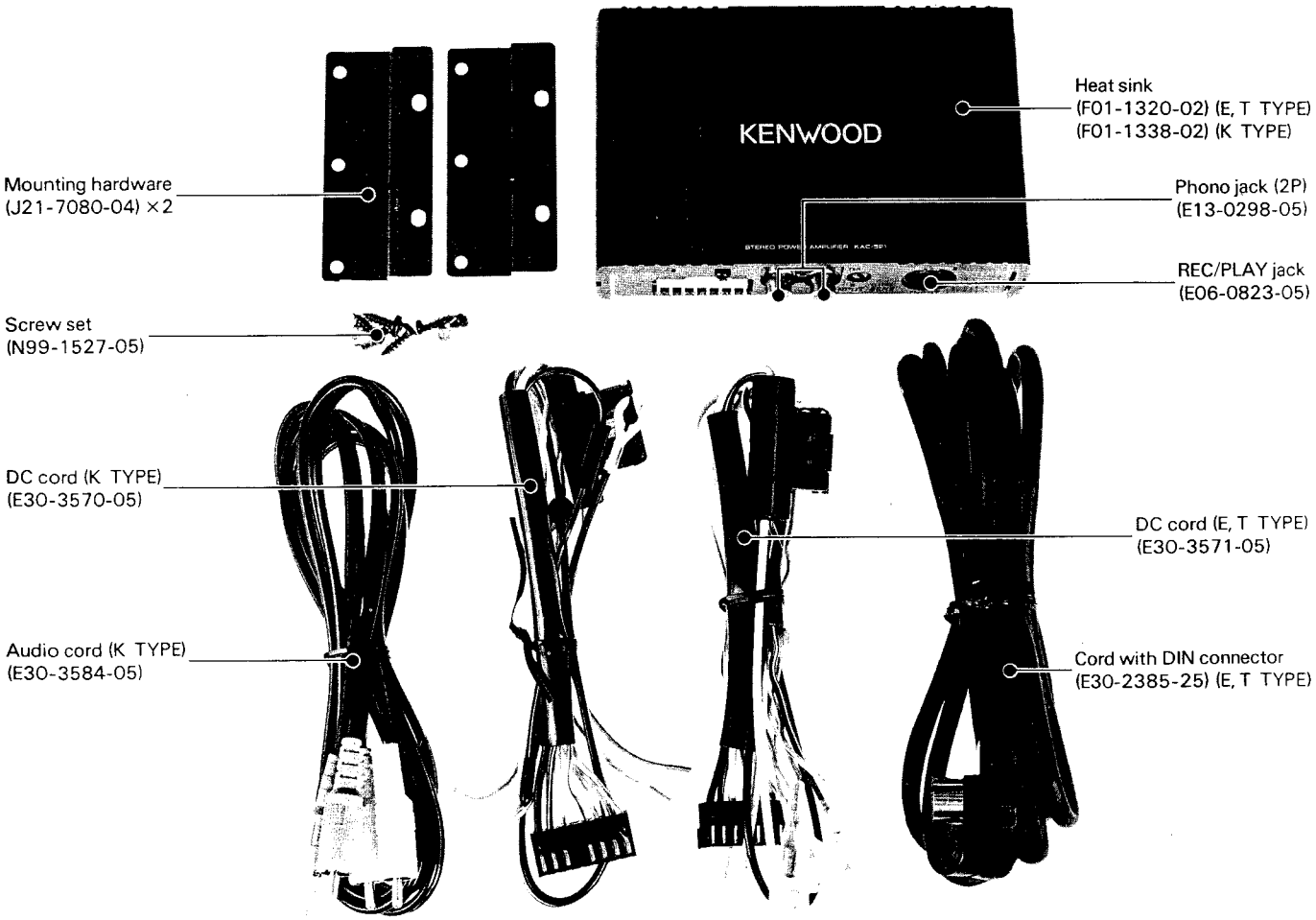
STEREO POWER AMPLIFIER

KAC-521

SERVICE MANUAL

KENWOOD

©1989-9 PRINTED IN JAPAN
B51-6077-00(B)2984

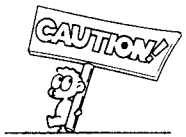


CONTENTS

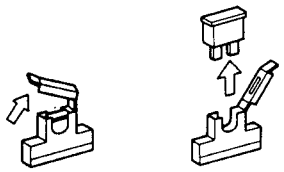
CONNECTIONS 2
BLOCK DIAGRAM 3
CIRCUIT DESCRIPTION 3
PACKING 4
PC BOARD 5
SCHEMATIC DIAGRAM 7
EXPLODED VIEW 9
PARTS LIST 10
SPECIFICATIONS ..... BACK COVER

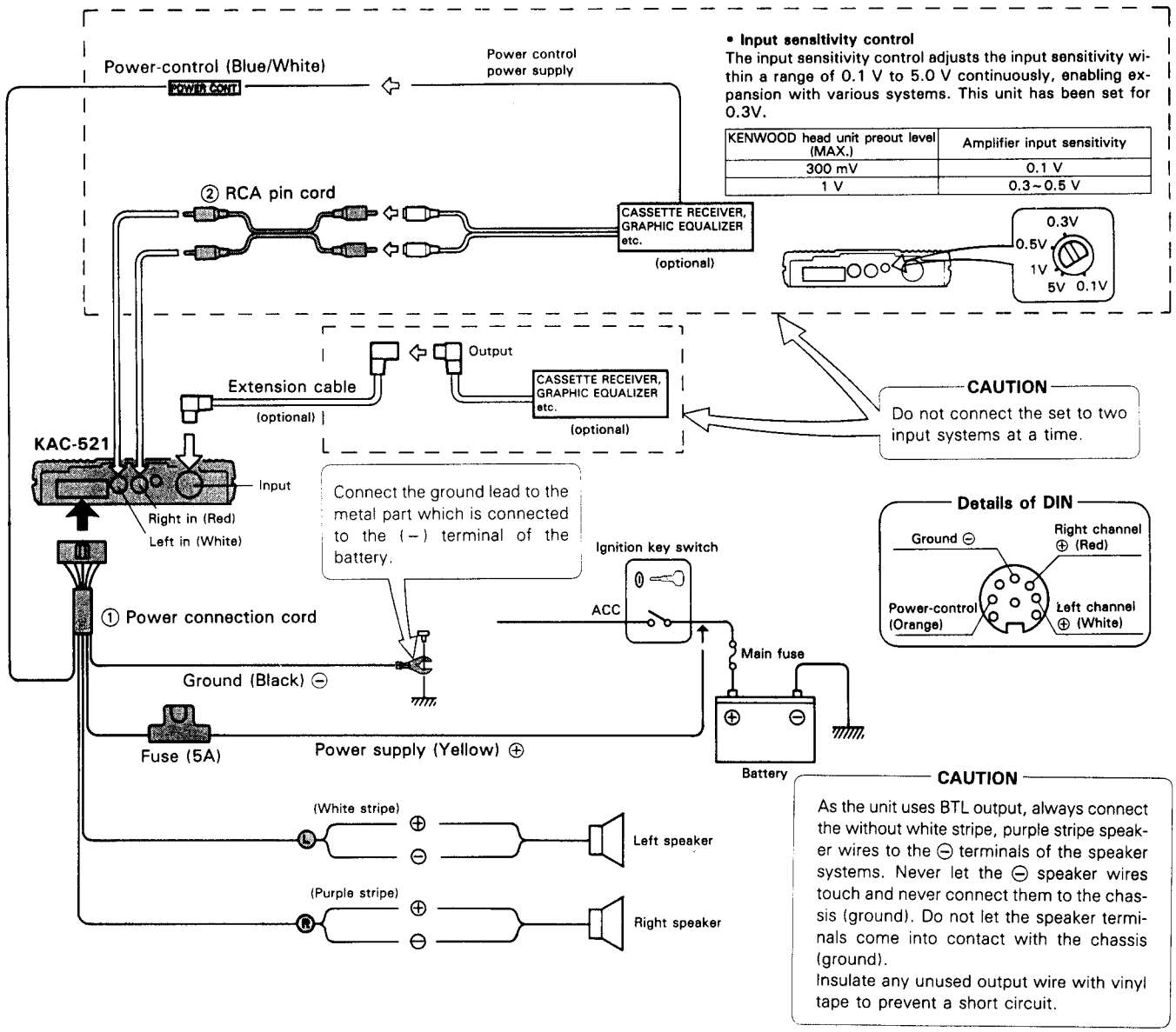
■ INSTALL MANNER

1. Before installation and wiring, remove the (−) terminal of the battery to prevent short-circuiting.
2. Connect the input and output cords of the system.
3. Connect the ground to the metal chassis of the car.
4. Connect the back-up power supply lead (yellow).
5. Install the set and after confirming the installation and wirings are correct, connect the (−) terminal of the battery.



- If a fuse is blown, first check that the associated wires are not short-circuited then replace the fuse with a new one having the same capacity.





• Input sensitivity control

The input sensitivity control adjusts the input sensitivity within a range of 0.1 V to 5.0 V continuously, enabling expansion with various systems. This unit has been set for 0.3V.

KENWOOD head unit preout level (MAX.)	Amplifier input sensitivity
300 mV	0.1 V
1 V	0.3~0.5 V

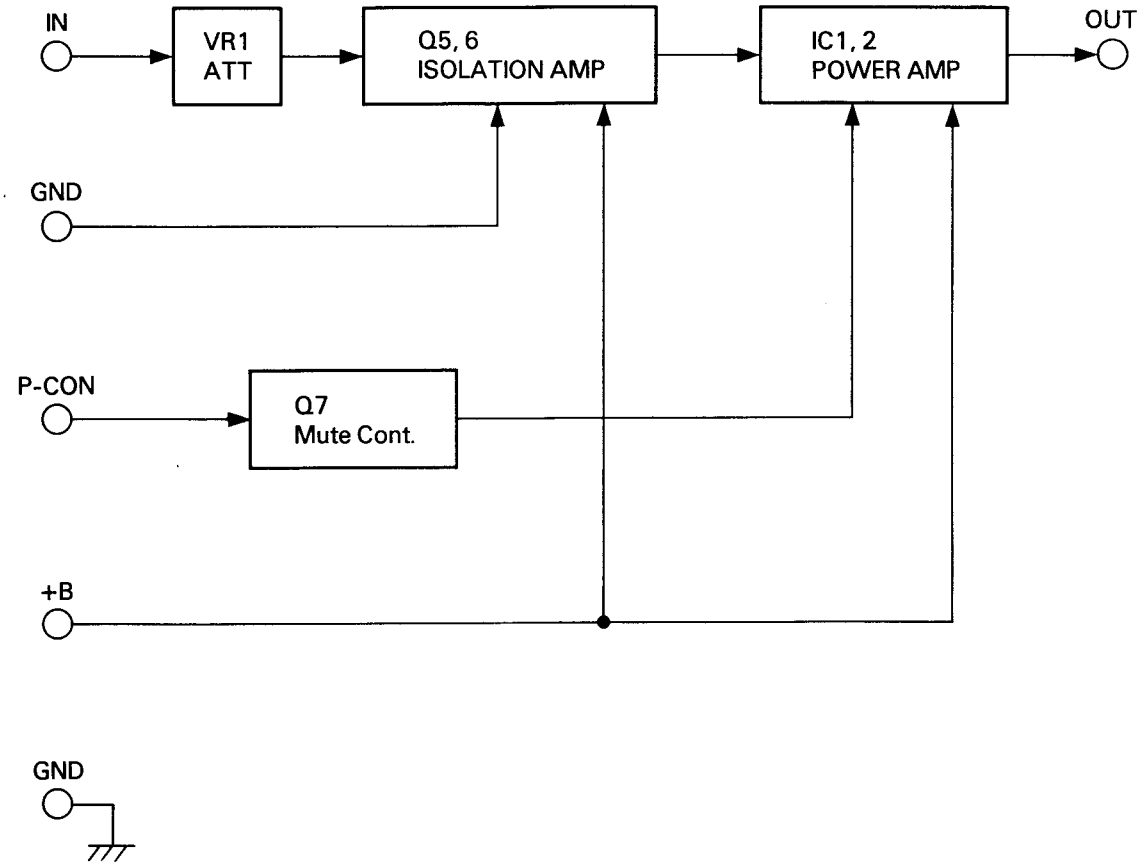
CAUTION

Do not connect the set to two input systems at a time.

CAUTION

As the unit uses BTL output, always connect the without white stripe, purple stripe speaker wires to the ⊖ terminals of the speaker systems. Never let the ⊖ speaker wires touch and never connect them to the chassis (ground). Do not let the speaker terminals come into contact with the chassis (ground).
Insulate any unused output wire with vinyl tape to prevent a short circuit.

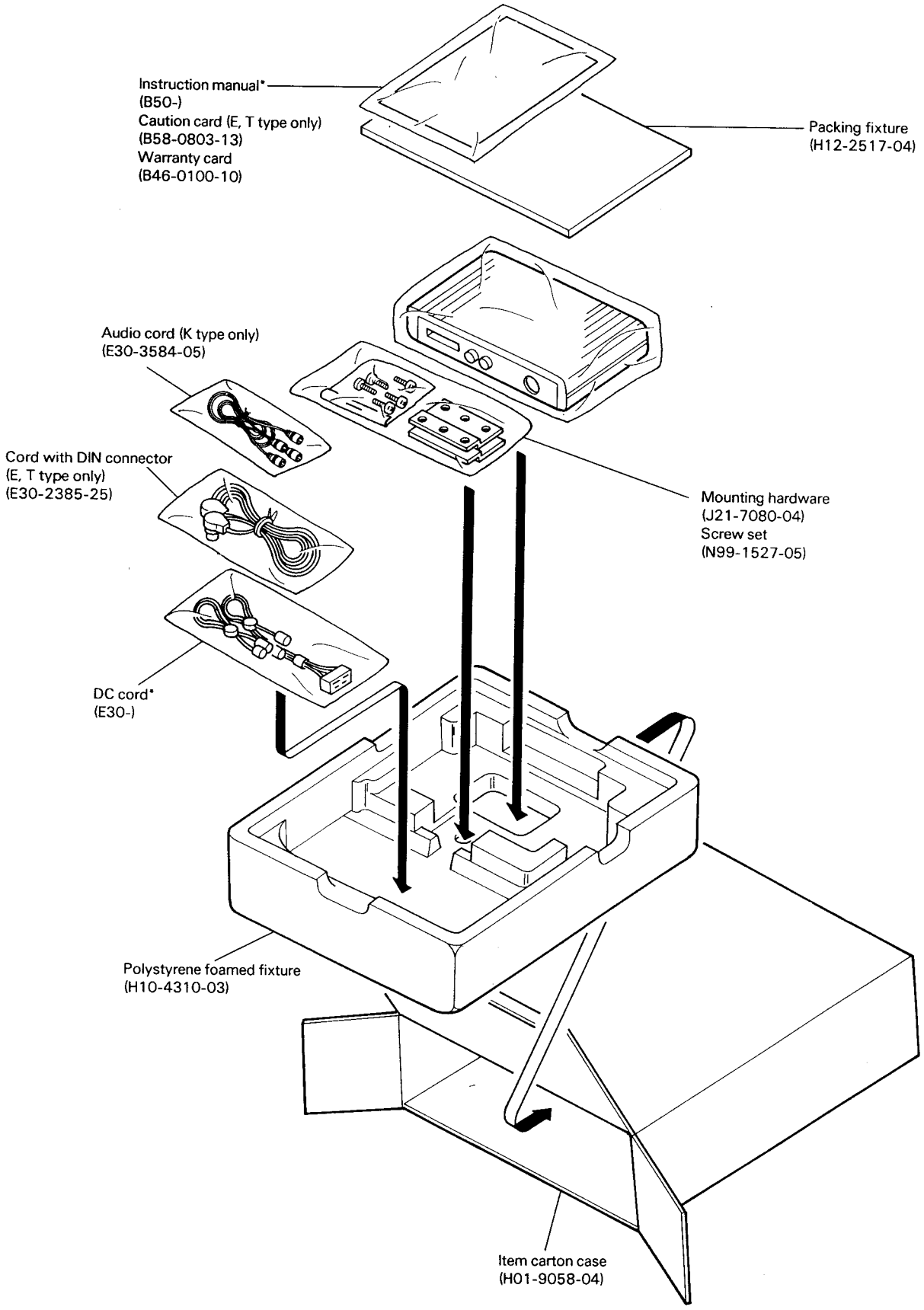
BLOCK DIAGRAM



CIRCUIT DESCRIPTION

Components	Use/Function
Q1, Q2	For relay making
Q3, Q4	Ripple filter
Q5, Q6	Isolation amplifier
Q7	For muting at P-CON ON
IC1 (IC2)	Pin 1 (12)..... SP, OUT+ Pin 2 (11)..... Boostrap Pin 3 (10)..... +B Pin 4 (9)..... GND Pin 5 (8)..... Boostrap Pin 6 (7)..... SP, OUT— Pin 7 (6)..... Ripple filter pin (ON/OFF pin) Pin 8 (5)..... NF Pin 9 (4)..... Unused Pin 10 (3)..... Input GND Pin 11 (2)..... Input pin Pin 12 (1)..... NF

PACKING



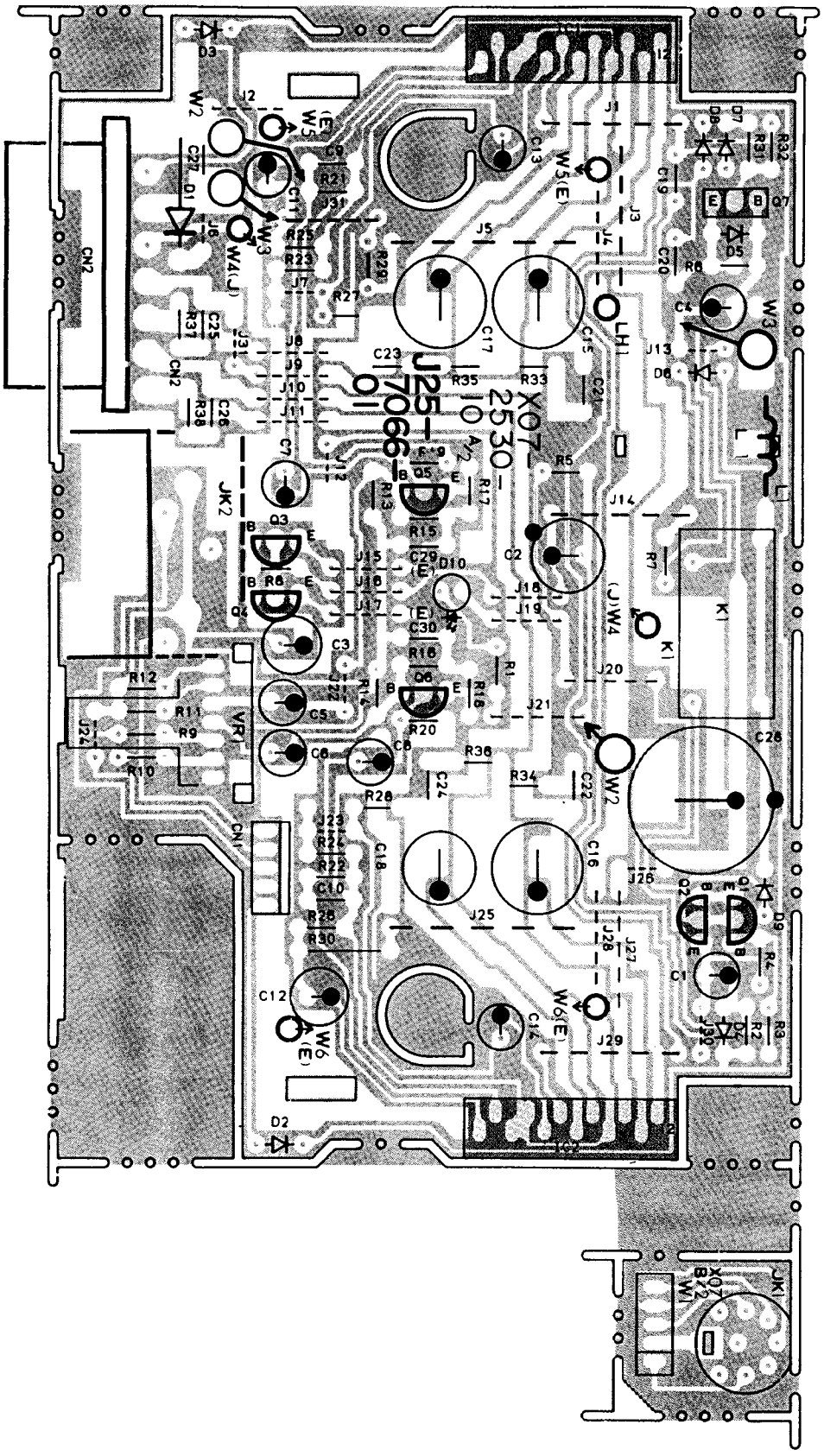
* Refer to parts list on page 10.

KAC-521 (K)

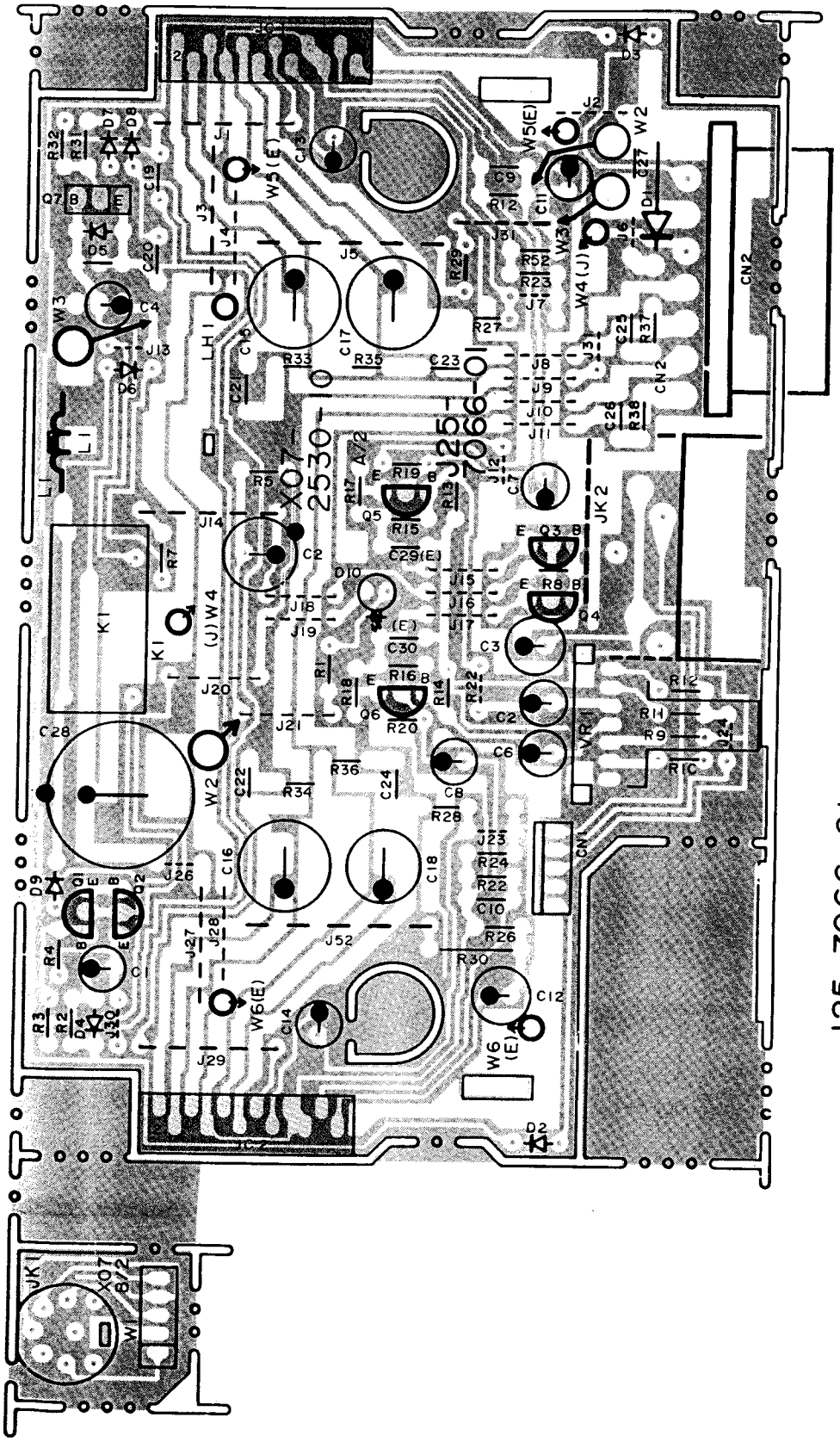
PC BOARD

Component side view

Ref. No.		Address
IC	Q	
	1	5D
	2	5D
	3	4C
	4	4C
	5	4C
	6	4C
	7	2D
1		2D
2		6D

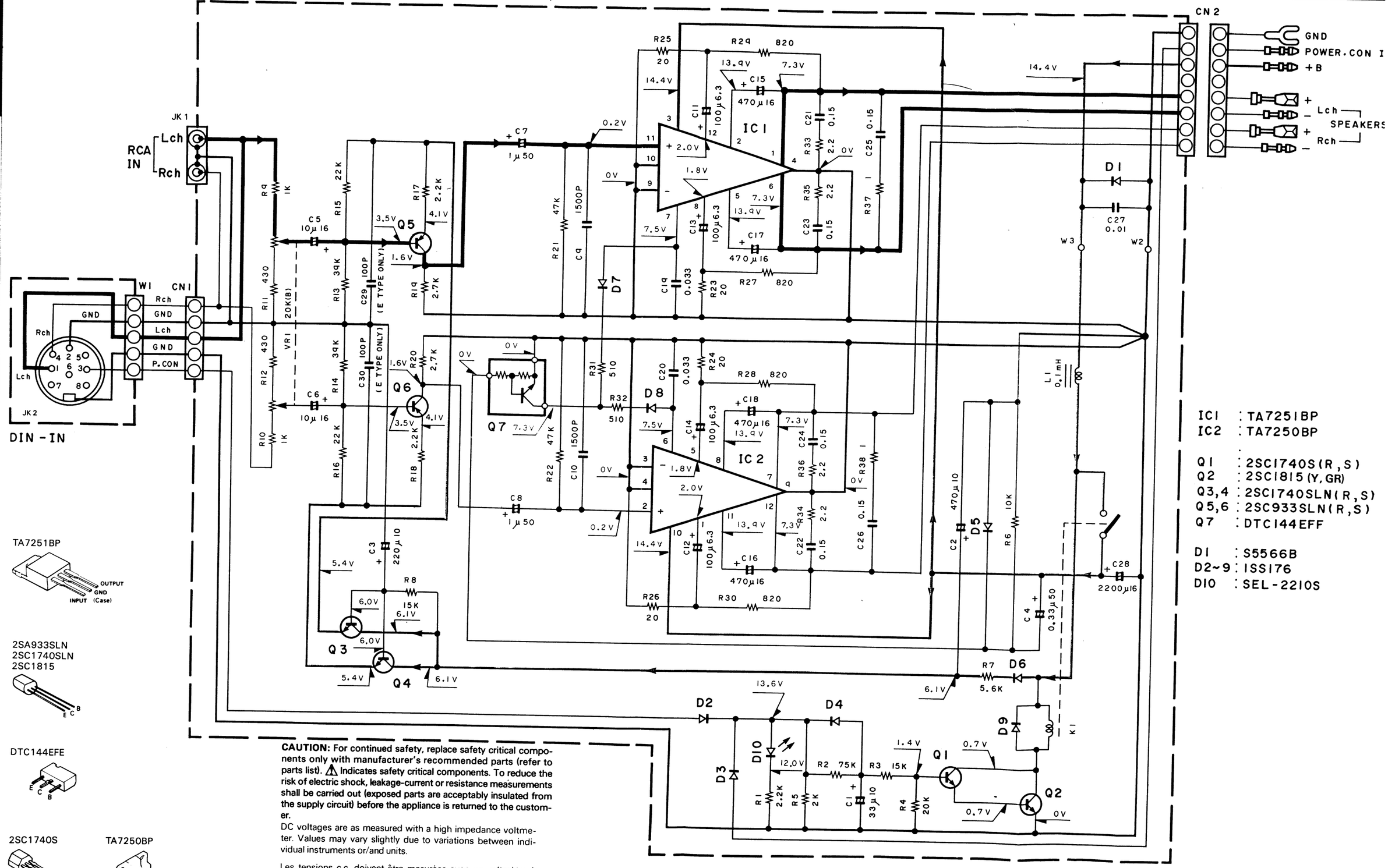


Foil side view



Ref. No.		Address
IC	Q	
	1	5F
	2	5G
	3	4H
	4	4H
	5	4H
	6	4H
	7	2F
1		2G
2		6G

(X07-2530-10)



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

IC1 : TA7251BP
IC2 : TA7250BP

Q1 : 2SC1740S(R,S)
Q2 : 2SC1815(Y,GR)
Q3,4 : 2SC1740SLN(R,S)
Q5,6 : 2SC933SLN(R,S)
Q7 : DTC144EFF

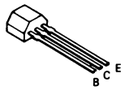
D1 : S5566B
D2~9 : 1SS176
D10 : SEL-2210S

TA7251BP

2SA933SLN
2SC1740SLN
2SC1815

DTC144EFE

2SC1740S



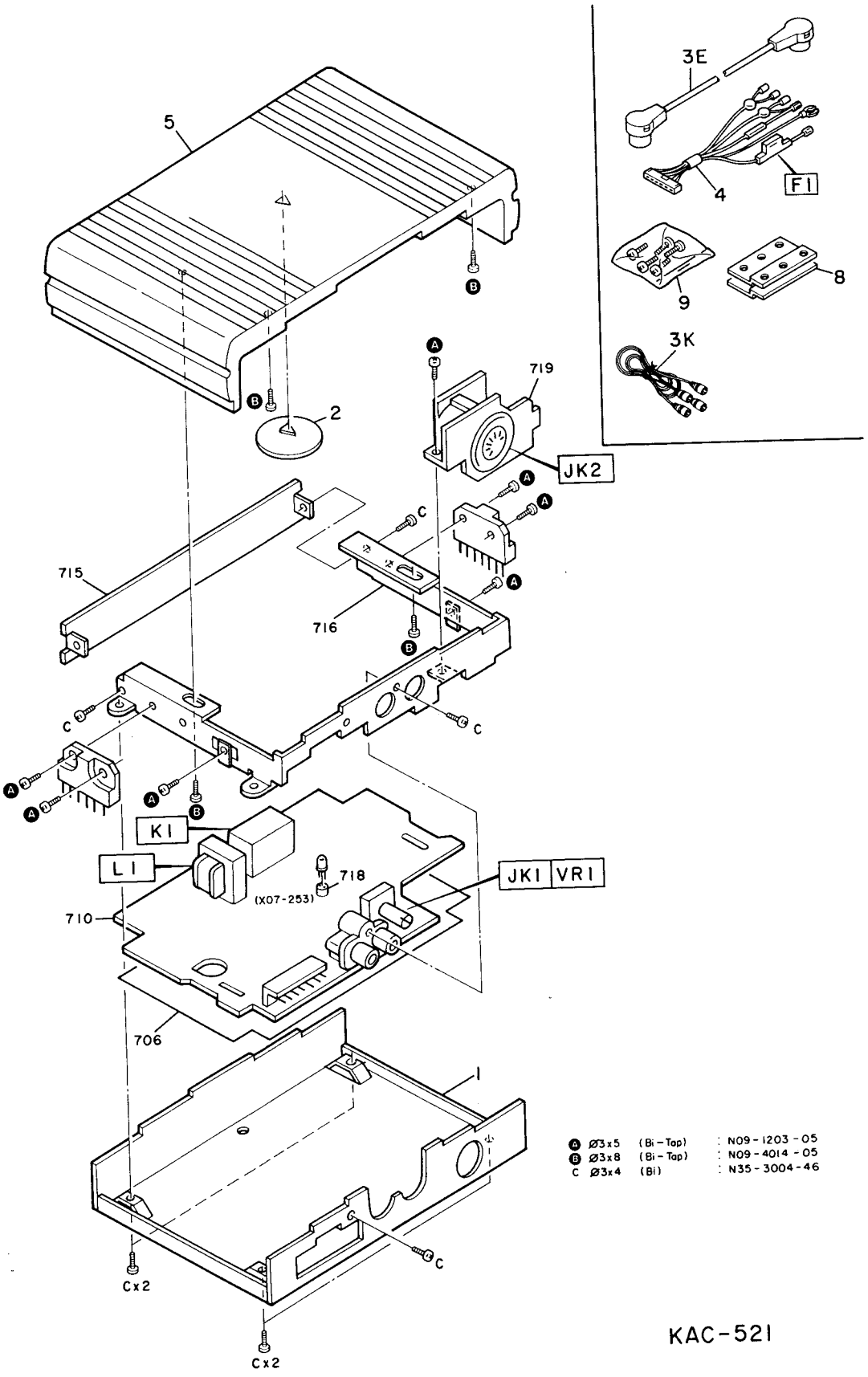
TA7250BP

KAC-521(K,E,T)

KAC-521

Y08-3880-10

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

* New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnes dans le Parts No. ne sont pas fournis.
Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
KAC-521						
1	3A	*	A40-1208-03	BOTTOM PLATE		
2	1A	*	B19-0817-04	LIGHTING BOARD		
-			B44-2163-04	UPC CODE LABEL		
-			B44-2165-04	UPC CODE LABEL		
-			B46-0100-10	WARRANTY CARD		
-		*	B50-7901-00	INSTRUCTION MANUAL		
-		*	B50-7902-00	INSTRUCTION MANUAL	ET	
-			B58-0803-13	CAUTION CARD (210X148,DBP)	ET	
3E	1B		E30-2385-25	CORD WITH DIN CONNECTOR	ET	
3K	1B	*	E30-3584-05	AUDIO CORD	K	
4	1B	*	E30-3570-05	DC CORD	K	
4	1B	*	E30-3571-05	DC CORD	ET	
5	1A	*	F01-1338-02	HEAT SINK	K	
5	1A	*	F01-1320-02	HEAT SINK	ET	
F1	1B		F06-5024-05	FUSE (5A)		
-		*	H01-9058-04	ITEM CARTON CASE		
-		*	H03-3070-04	OUTER CARTON CASE		
-		*	H10-4310-03	POLYSTYRENE FOAMED FIXTURE		
-		*	H12-2517-04	PACKING FIXTURE		
-		*	H25-0309-04	PROTECTION BAG		
-		*	H25-0335-04	PROTECTION BAG (150X260X0.03)		
-			H25-0336-04	PROTECTION BAG (170X250X0.03)		
8	1B	*	J21-7080-04	MOUNTING HARDWARE		
9	1B	*	N99-1527-05	SCREW SET		
A	2A,2B		N09-1203-05	TAPTITE SCREW (3X5,)		
B	1A,1B	*	N09-4014-05	TAPTITE SCREW (3X8,)		
C	3A		N35-3004-46	BINDING HEAD MACHINE SCREW		
POWER AMPLIFIER UNIT (X07-2530-10:K, 2-71:E, T)						
D10		*	B30-1320-05	LED(RED)		
C1			CE04DW1A330M	ELECTRO 33UF 10WV		
C2			CE04DW1A471M	ELECTRO 470UF 10WV		
C3			CE04DW1A221M	ELECTRO 220UF 10WV		
C4			CE04DW1HR33M	ELECTRO 0.33UF 50WV		
C5 ,6			CE04DW1C100M	ELECTRO 10UF 16WV		
C7 ,8			CE04DW1H010M	ELECTRO 1.0UF 50WV		
C9 ,10			CK45FB1H152K	CERAMIC 1500PF K		
C11 -14		*	C90-2512-05	ELECTRO 100UF 6.3WV		
C15 -18			CE04DW1C471M	ELECTRO 470UF 16WV		
C19 ,20			CF92FV1H333J	MF 0.033UF J		
C21 -26			CF92FV1H154J	MF 0.15UF J		
C27			CK45FF1H103Z	CERAMIC 0.010UF Z		
C28		*	C90-2518-05	ELECTRO 2200UF 16WV		
C29 ,30			CK45FB1H101K	CERAMIC 100PF K	ET	
JK1	2A		E13-0298-05	PHONO JACK (2P)		
JK2	1B	*	E06-0823-05	REC/PLAY JACK		
LH1			J19-2826-05	HOLDER		
L1	2A	*	L15-0503-05	LOW-FREQENCY CHOKE COIL		
A	2A,2B		N09-1203-05	TAPTITE SCREW (3X5,)		

E: Scandinavia & Europe K: USA P: Canada
U: PX(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Telle ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
B	1A,1B	*	N09-4014-05	TAPTITE SCREW (3X8,)		
VR1	2A	*	R10-3631-05	POTENTIOMETER(20K)		
K1	2A	*	S51-1611-05	MAGNETIC RELAY		
D1			S5566B	DIODE		
D2 -9			1SS176	DIODE		
IC1		*	TA7251BP	IC		
IC2			TA7250BP	IC(POWER AMP)		
Q1			2SC1740S(R,S)	TRANSISTOR		
Q2			2SC1815(Y,GR)	TRANSISTOR		
Q3 ,4			2SC1740SLN(R,S)	TRANSISTOR		
Q5 ,6			2SA933SLN(R,S)	TRANSISTOR		
Q7			DTC144EFF	DIGITAL TRANSISTOR		

E: Scandinavia & Europe K: USA P: Canada
U: PX(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

KAC-521

SPECIFICATIONS

Specifications subject to change without notice.

Audio Section

Max Power Output (1 kHz, 4 Ω)	40 W + 40 W
Rated output power (less than 1% THD, 20 Hz - 20 kHz, 4 Ω)	20 W + 20 W
Frequency Response (−3 dB)	5 Hz - 50 kHz
Sensitivity (rated output) MAX.	0.1 V
MIN.	5.0 V
Signal to Noise Ratio	105 dB
Input Impedance	10 kΩ
Damping Factor (100 Hz)	more than 100

General

Operating Voltage	14.4 V (11 - 16 V allowable)
Current Consumption (MAX.)	5 A
Dimensions (W × H × D)	140 × 30 × 90 mm (5-1/2 × 1-3/16 × 3-9/16 in.)
Weight	0.5 kg (1.1 lb)

Kenwood follows a policy of continuous advancements in development.
For this reason specifications may be changed without notice.

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement.
Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

Kenwood strebt ständige Verbesserungen in der Entwicklung an.
Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

KENWOOD CORPORATION
Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan

KENWOOD U.S.A. CORPORATION
2201 East Dominguez Street, Long Beach, CA 90810;
550 Clark Drive, Mount Olive, NJ 07828, U.S.A.

KENWOOD ELECTRONICS CANADA INC.
P.O. BOX 1075, 959 Gana Court, Mississauga, Ontario, Canada L4T 4C2

TRIO-KENWOOD U.K. LIMITED
KENWOOD House, Dwight Road, Watford, Herts., WD1 8EB United Kingdom

KENWOOD ELECTRONICS BENELUX N.V.
Mechelsesteenweg 418 B-1930 Zaventem, Belgium

KENWOOD ELECTRONICS DEUTSCHLAND GMBH
Rembrücker-Str. 15, 6056 Heusenstamm, West Germany

TRIO-KENWOOD FRANCE S.A.
13 Boulevard Ney, 75018 Paris, France

KENWOOD LINEAR S.p.A.
20125, MILANO-VIA ARBE, 50, ITALY

KENWOOD ELECTRONICS AUSTRALIA PTY. LTD. (INCORPORATED IN N.S.W.)
4E Woodcock Place, Lane Cove, N.S.W. 2066, Australia

KENWOOD & LEE ELECTRONICS, LTD.
Wang Kee Building, 4th Floor, 34-37, Connaught Road, Central, Hong Kong